

CLAIMS

1. A method for the processing of a water-soluble colour- and effect-giving coating system, which after the coating of an object surface forms a cracked lacquer structure with a leather-like surface, **characterised in that** a water-soluble coating system is deposited in one layer on an object surface as a base lacquer application with an arbitrary binder, then a water-soluble glaze application as an activator is immediately deposited in the spraying process onto this deposited coating system in the wet state and the surface of the second coating comprising a glaze application is then subjected to a briefly acting thermal shock in order to initiate the hardening of the coating system.
2. The method for the processing of a water-soluble colour- and effect-giving coating system, which after the coating of an object surface forms a cracked lacquer structure with a leather-like surface, **characterised in that** a water-soluble coating system is deposited in one layer on an object surface as a base lacquer application with an arbitrary binder, then a water-soluble acrylate dispersion as an activator is immediately deposited in the spraying process onto this deposited coating system in the wet state and the surface of the second coating comprising an acrylate dispersion is then subjected briefly to an air flow with a low flow rate in order to initiate the hardening of the coating system.
3. The method for the processing of a water-soluble colour- and effect-giving coating system, which after the coating of an object surface forms a cracked lacquer structure with a leather-like surface, **characterised in that** a water-soluble coating system

either comprising a PUR lacquer with an addition of a water-soluble glaze or a mixture of lacquer consisting of an arbitrary binder and an acrylate dispersion with an addition of a water-soluble glaze is mixed immediately before the processing and is applied in one layer onto an object surface and then subjected to a briefly acting thermal shock.

4. The method for the processing of a water-soluble colour- and effect-giving coating system, which after the coating of an object surface forms a cracked lacquer structure with a leather-like surface, **characterised in that** a solvent-containing coating system is deposited in one layer onto an object surface as a base lacquer application with an arbitrary binder, then a water-soluble glaze application as an activator is immediately deposited in the spraying process onto this applied coating system in the wet state and the surface of the second coating comprising a glaze application is then subjected to a briefly acting thermal shock to initiate the hardening of the coating system.
5. The method for the processing of a colour- and effect-giving coating system for the coating of an object surface, which forms a cracked lacquer structure and has a leather-like surface, **characterised in that** a solvent-containing coating system is deposited in one layer onto an object surface as a base lacquer application comprising a lacquer with an arbitrary binder, then a water-soluble acrylate dispersion as an activator is immediately deposited in the spraying process onto this applied coating system in the wet state and the surface of the second coating comprising an acrylate dispersion is then subjected briefly to an air flow with a low flow rate in order to initiate the hardening of the coating system.

6. The method according to claim 1, 2, 4 and 5, **characterised in that** the boundary layer of the base lacquer application is mechanically destroyed by the deposition of the second coating of the base lacquer application in the spraying process and a mixing zone extending into the base lacquer application and into the second coating is produced, whereby the kinematic viscosity in the part of the mixing zone extending into the base lacquer application is reduced as a result of the Brownian molecular motion in the mixing zone and by diffusion of the small organic solvent fraction of butyl glycol or a similarly acting additive from the glaze used for the second coating.
7. The method according to claim 3, **characterised in that**, as a result of the addition of a glaze with a small organic solvent fraction of butyl glycol or a similarly acting additive immediately before the processing, a stratified kinematic viscosity is produced by the Brownian molecular motion inside the preparation of the coating application, said Brown molecular motion beginning immediately upon mixing.
8. The method according to claim 1, 2, 4 and 5, **characterised in that** a zone of differing surface tension is produced as a result of the reduction of the surface tension in the region of the surface of the base lacquer application that is facing away from the object surface.
9. The method according to claim 1, 3 and 4, **characterised in that** the thermal shock is carried out over a time interval and at a temperature, which is dependent on the one hand on the application thickness of the prime coat and on that of the glaze application

and on the other hand on the viscosity of the applied coats.

10. The method according to claim 1, 3 and 4, **characterised in that** the heat effect on the coated object surface takes place perpendicularly and is carried out by means of a circulating air flow.
11. The method according to claim 1, 3, 4 and 11, **characterised in that** the heat treatment is carried out at a temperature above approx. 90°C over a time-span of approx. 5 seconds.
12. The method according to any one of claims 1 to 5, **characterised in that** the coating system is applied onto an object surface designed coloured or onto an object surface of a coloured object, whereby the coating system present as a clear lacquer is processed in coloured form.
13. The method according to claims 1 to 5, **characterised in that** the control of the viscosity of the coating system is carried out by the addition of solvent.
14. The method according to claims 1 to 5, **characterised in that**, after the coating with a coating system forming a cracked lacquer structure on an existing surface with a formed cracked lacquer structure, a further application is carried out with a lacquer coating giving rise to an effect-giving surface.
15. The method according to claim 2 and 4, **characterised in that** the subjecting of the coating system to an air flow takes place at at least 0.4 bar.
16. A coating system for the performance of the method according to claims 1 to 5, **characterised in that**, as

a binding agent, use is optionally made of derivatives of natural oils, reaction products both from unsaturated and saturated acids and alcohols, synthetic resins as derivatives of phenols, urea, melamine, acrylic acid, styrene, of ketones or of aldehydes, of amines, of silicon and of terpene hydrocarbons, polyvinyl compounds, organometallic compounds, polyurethane and polycarbamides, epoxy resins, nitrocellulose and cellulose compounds, rubber and their derivatives.

17. The coating system for the performance of the method according to claims 1 to 5, **characterised in that**, for the base lacquer application, a PUR lacquer hardening chemically in the presence of air humidity is used as a binder and a binder based on a dispersion lacquer and adjusted so as to have a low viscosity is used as a glaze.
18. The coating system for the performance of the method according to claims 1 to 5, **characterised in that** the glaze comprises a water-soluble binder dispersion and an activator as an additive reducing the surface tension of the glaze.
19. The coating system for the performance of the method according to claims 1 to 5, **characterised in that**, for the lacquer coating of the effect-giving surface, a soft lacquer is provided which is optionally impregnated with a liquid substance secreting an odour.
20. The coating system for the performance of the method according to claim 3, **characterised in that** the prime coat comprises a water-soluble PUR lacquer with an addition of a glaze consisting of an acrylate dispersion in a mixing ratio of 6 : 1, whereby the

mixture is made up with 30% water of 7 parts to form a base lacquer application fit for use.

21. The coating system for the performance of the method according to claims 1 to 3, **characterised in that** the base lacquer application comprises a water-soluble PUR lacquer containing one or two components, whereby the viscosity of this PUR lacquer is adjusted by the addition of water to form a base lacquer application fit for use.
22. The coating system for the performance of the method according to claims 1 to 3, **characterised in that** the base lacquer application comprises a water-soluble lacquer preparation, based on a mixed lacquer of aliphatic polyurethane in dispersion and an acrylate copolymer combination with an addition of a glaze of an acrylate dispersion in the ratio of 6 parts mixed lacquer and 1 part acrylate dispersion, whereby the lacquer preparation is made up with 30% of 7 parts water to form a base lacquer application fit for use.
23. The coating system according to claims 1 to 5, **characterised in that** the prime coat lies with a pH value in the almost neutral range of approx. 7.8 to 8.0.
24. The coating system for the performance of the method according to claims 1 to 5, **characterised in that** a glaze application, deposited onto a base lacquer application, comprises a pigment mixture in a water-soluble dispersion of the binder with a pH value of approx. 9.3 and with an organic solvent fraction of approx. 3.00%, a solid fraction of 7.5 to 8.50%.
25. The coating system for the performance of the method according to claim 2, **characterised in that**, for the

purpose of coating, a water-soluble PUR lacquer or a lacquer mixture comprises a water-soluble lacquer preparation, based on a mixed lacquer of aliphatic polyurethane in dispersion and an acrylate copolymer combination with an addition of a glaze of acrylate dispersion in a ratio of 6 parts mixing lacquer and 1 part acrylic dispersion, the lacquer preparation being made up with 30% of 7 parts water to form a base lacquer application fit for use, and a subsequently added fraction of a glaze containing a pigment mixture in aqueous dispersion.